

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1 to 49. (Canceled).

50. (Currently Amended) An in-shell egg pasteurization system, comprising ~~[[an]]~~ a spiral oven configured to increase a temperature of an in-shell egg to a first predetermined temperature in a range of between 120°F and 140°F for a predetermined time interval.

51. (Original) The system according to claim 50, further comprising a cooler arranged downstream of the oven and configured to reduce the temperature of the in-shell egg to a second predetermined temperature in a range of between 45°F and 75°F.

52. (Original) The system according to claim 50, wherein the predetermined time interval is between 10 minutes and 120 minutes.

53. (Original) The system according to claim 50, wherein the oven includes a heating medium.

54. (Original) The system according to claim 53, wherein the heating medium includes at least one of hot air and steam.

55. (Original) The system according to claim 51, wherein the cooler is configured to cool the in-shell egg for a time interval in a range of between 1 minute and 20 minutes.

56. (Currently Amended) ~~[[The]]~~ An in-shell egg pasteurization system,
~~according to claim 49, further comprising:~~

an oven configured to increase a temperature of an in-shell egg to a first predetermined temperature in a range of between 120°F and 140°F for a predetermined time interval;

a packer configured to pack the in-shell egg; and
a grader configured to grade the in-shell egg;
wherein the oven is arranged between the packer and the grader.

Claims 57 to 85. (Canceled).

86. (New) The system according to claim 50, further comprising a spiral cooler arranged downstream of the oven and configured to reduce the temperature of the in-shell egg to a second predetermined temperature in a range of between 45°F and 75°F.

87. (New) The system according to claim 50, wherein the predetermined time interval is between 10 and 90 minutes.

88. (New) The system according to claim 56, further comprising a cooler arranged downstream of the oven and configured to reduce the temperature of the in-shell egg to a second predetermined temperature in a range of between 45°F and 75°F.

89. (New) The system according to claim 56, wherein the predetermined time interval is between 10 minutes and 120 minutes.

90. (New) The system according to claim 56, wherein the oven includes a heating medium.

91. (New) The system according to claim 90, wherein the heating medium includes at least one of hot air and steam.

92. (New) The system according to claim 88, wherein the cooler is configured to cool the in-shell egg for a time interval in a range of between 1 minute and 20 minutes.

93. (New) The system according to claim 56, further comprising a spiral cooler arranged downstream of the oven and configured to reduce the temperature of the in-shell egg to a second predetermined temperature in a range of between 45°F and 75°F.

94. (New) The system according to claim 56, wherein the predetermined time interval is between 10 and 90 minutes.

95. (New) The system according to claim 56, wherein the oven includes a spiral oven.

96. (New) The system according to claim 56, wherein the oven includes a microwave oven.

97. (New) The system according to claim 56, further comprising, arranged at least one of (a) upstream and (b) downstream of the oven, at least one of (a) an orientor configured to orient the in-shell egg, (b) an egg washer configured to wash the in-shell egg, (c) a dirt detection and removal device configured to detect dirt on a surface of the in-shell egg and remove the in-shell egg in accordance with the detection of dirt on the surface of the in-shell egg, (d) a blood detection and removal device configured to detect blood inside the in-shell egg and to remove the in-shell egg in accordance with the detection of blood inside the in-shell egg, (e) a crack detection and removal device configured to detect a crack in the in-shell egg and to remove the in-shell egg in accordance with the detection of a crack in the in-shell egg, (f) a preheater configured to preheat the in-shell egg, (g) a sizer configured to determine a size of the in-shell egg, (h) a dryer configured to dry the in-shell egg and (i) a cooler configured to cool the in-shell egg.

98. (New) An in-shell egg pasteurization system, comprising:
an oven configured to increase a temperature of an in-shell egg to a first predetermined temperature in a range of between 120°F and 140°F for a predetermined time interval; and

arranged at least one of (a) upstream and (b) downstream of the oven, at least one of (a) an orientor configured to orient the in-shell egg, (b) an egg washer

configured to wash the in-shell egg, (c) a dirt detection and removal device configured to detect dirt on a surface of the in-shell egg and remove the in-shell egg in accordance with the detection of dirt on the surface of the in-shell egg, (d) a blood detection and removal device configured to detect blood inside the in-shell egg and to remove the in-shell egg in accordance with the detection of blood inside the in-shell egg, (e) a crack detection and removal device configured to detect a crack in the in-shell egg and to remove the in-shell egg in accordance with the detection of a crack in the in-shell egg, (f) a preheater configured to preheat the in-shell egg, (g) a sizer configured to determine a size of the in-shell egg, (h) a dryer configured to dry the in-shell egg, (i) a cooler configured to cool the in-shell egg, (j) a packer configured to pack the in-shell egg, and (k) a grader configured to grade the in-shell egg.

99. (New) An in-shell egg pasteurization system, comprising:
a conveyor system configured to transport the in-shell egg, the conveyor system including:

an oven configured to increase a temperature of an in-shell egg to a first predetermined temperature in a range of between 120°F and 140°F for a predetermined time interval; and

arranged at least one of (a) upstream and (b) downstream of the oven, at least one of (a) an orientor configured to orient the in-shell egg, (b) an egg washer configured to wash the in-shell egg, (c) a dirt detection and removal device configured to detect dirt on a surface of the in-shell egg and remove the in-shell egg in accordance with the detection of dirt on the surface of the in-shell egg, (d) a blood detection and removal device configured to detect blood inside the in-shell egg and to remove the in-shell egg in accordance with the detection of blood inside the in-shell egg, (e) a crack detection and removal device configured to detect a crack in the in-shell egg and to remove the in-shell egg in accordance with the detection of a crack in the in-shell egg, (f) a preheater configured to preheat the in-shell egg, (g) a sizer configured to determine a size of the in-shell egg, (h) a dryer configured to dry the in-shell egg, (i) a cooler configured to cool the in-shell egg, (j) a packer configured to pack the in-shell egg, and (k) a grader configured to grade the in-shell egg.

100. (New) A method for pasteurizing an in-shell egg, comprising:
performing a grading operation on the in-shell egg;
after the grading operation, increasing a temperature of the in-shell egg to a first predetermined temperature in a range of between 120°F and 140°F for a predetermined time interval; and
packing the in-shell egg in a packer after the temperature increasing step.